



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
-----------------	-------------	----------------------	---------------------	------------------

10/645,571

08/22/2003

Hyun-Il Kwon

44846

8216

1609 7590 04/26/2007  
ROYLANCE, ABRAMS, BERDO & GOODMAN, L.L.P.  
1300 19TH STREET, N.W.  
SUITE 600  
WASHINGTON,, DC 20036

EXAMINER

WONG, XAVIER S

ART UNIT

PAPER NUMBER

2609

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
--	-----------	---------------

3 MONTHS

04/26/2007

PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

## Office Action Summary

Application No.

10/645,571

Applicant(s)

KWON ET AL.

Examiner

Xavier Wong

Art Unit

2609

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE THREE MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 22 August 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-10 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-10 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 22 August 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_.

## DETAILED ACTION

### *Priority*

Acknowledgment is made of applicant's claim for foreign priority under 35 U.S.C. 119(a)-(d).

### ***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1 and 6 are rejected under 35 U.S.C. 102(b) as being anticipated by **Behtash et al (U.S Patent 5,553,076)**.

Consider claims 1 and 6, **Behtash et al** show and disclose an apparatus and method in which wireless terminals (as User Equipment) and CDMA Base Station (as Node B) communicate in both synchronous and asynchronous modes (col. 1 lines 1-13 & 32-40, col. 10 lines 29-34; fig. 1). In the system, the base station comprises control units (e.g. protocol and control unit 80 and control logic unit 72 in fig. 4) that determine the system (synchronous or asynchronous) modes and generating requests to select the system modes (col. 10 lines 29-50; fig. 5). A PN/code generator creates sequences to perform synchronization acquisition based on the selections made (col. 4 lines 41-51, col. 5 lines 8-13 & col. 7 lines 2-4; fig. 5).

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Claims 2 – 4 and 7 – 9 are rejected under 35 U.S.C. 103(a) as being unpatentable over **Behtash et al (U.S Patent 5,553,076)** in view of **Suzuki et al (U.S Pub 2002/0032692 A1)**.

Consider claims (2, 4) and (7, 8), and as applied to claims 1 and 5, **Behtash et al** disclose the claimed invention and the power down/savings process during idle times (col. 5 lines 64-67, col. 6 lines 1-15 & *table; abstract*).

However, **Behtash et al** did not explicitly explain a controller that determines a *previous* Node B/Base Station system mode to which the UE/wireless terminal belongs *prior* to the UE powering-off as the system mode of a *current* Node B.

In a related field of endeavor, **Suzuki et al** teach the concept of a workflow management (control) system wherein previously defined (therefore, having a first priority) information is referenced to determine whether processing for a (next/current) state transition is performed in synchronous or asynchronous system modes (paragraphs 0058 & 0222).

Therefore, it would have been obvious to a person of ordinary skill in the art at the time of the invention was made to incorporate the teachings of a controller that determines a *previous* Node B/Base Station system mode to which the UE/wireless terminal belongs *prior* to the UE powering-off as the system mode of a *current* Node B as taught by **Suzuki et al**, in the apparatus and method of **Behtash et al**, in order to facilitate state transitions between synchronous and asynchronous modes.

Art Unit: 2609

Consider claims **3** and **9**, and as applied to claims **1** and **5**, **Behtash et al** show and disclose the claimed invention except a controller that determines a system mode set by a service provider.

In a related field of endeavor, **Suzuki et al** mention an application service provider that allows users to set the (current) modes to be synchronous or asynchronous system modes (paragraphs 0223-225 & 0261).

Therefore, it would have been obvious to a person of ordinary skill in the art at the time of the invention was made to incorporate the teachings of a controller that determines a system mode set by a service provider as taught by **Suzuki et al**, in the apparatus and method of **Behtash et al**, in order to better manage resource priorities in a communication/workflow system.

Claims **5** and **10** are rejected under 35 U.S.C. 103(a) as being unpatentable over **Behtash et al** (U.S Patent 5,553,076) in view of **Lipponen et al** (U.S Pub 2002/0031169 A1).

Consider claims **5** and **10**, and as applied to claims **1** and **6**, **Behtash et al** show and disclose a code generator for generating synchronization codes for a communication system based on a selected signal (col. 4 lines 41-51, col. 5 lines 8-13 & col. 7 lines 2-4; fig. 5).

However, **Behtash et al** did not specifically mention the method and/in the apparatus using:

A *register* having a second number of registers necessary for generating a synchronization code used in the second system mode, the register unit operating so that a feedback value is input to a first number of shift registers necessary for generating a synchronization code used in the first system mode or to a second number of shift registers necessary for generating a synchronization code used in the second system mode, according to a predetermined control generated by the system mode select signal;

A *synchronization code mask unit* for masking a mask value for generating the synchronization code used in the first system mode or the synchronization code used in the second system mode, to a shift register value according to a predetermined control;

A *feedback controller* for determining a register feedback tap of the register unit for generating the synchronization code used in the first system mode or the synchronization code used in the second system mode according to a predetermined control generated by the system mode select signal, and inputting a feedback value to a shift register corresponding to a system mode, and;

Combining a *mask value* and *shift register value* for generating a synchronization code.

In a related field of endeavor, **Lipponen et al** teach the concept of a linear feedback shift register in which its code is generated/inputted by mask registers based on a previous/predetermined (1<sup>st</sup>) state/mode before shifting into a new (2<sup>nd</sup>) state/mode (paragraphs 0021-22 & 0070-71; figs. 2C & 3A-B; *abstract*). The code generator, which controls the mask registers, is controlled by control(s) 262A and 262B based on an

Art Unit: 2609

initial/predetermined state/mode as shown in figure 2B (paragraphs 0052-54; claim 8).

Fig. 2C shows that register 3 (276) has a feedback route through an XOR gate (284) and line 288 back to register 1 (272); and at the same time, the last register 5 (280) has a feedback route through the same XOR gate back to register 1. Therefore, any state can be set as an initial state (besides zero) based on the position of the feedback route/tap.

The linearity of the PN code is refers to a characteristic that a code with the same period is generated irrespective of an initial value of the shift register in a state that the feedback tap is determined (paragraphs 0057-59). Flowchart in figure 3B discloses the usage of shift register value and mask value to yield code (paragraph 0056).

Therefore, it would have been obvious to a person of ordinary skill in the art at the time of the invention was made to incorporate the teachings of a register unit, synchronization code mask unit and a feedback control unit to generate synchronization codes for first or second system modes by combining mask value and shift register value as taught by **Lipponen et al**, in the apparatus and method of **Behtash et al**, in order to save memory space for generating spreading codes when necessary.

### ***Conclusion***

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Art Unit: 2609

**A.) Messerschmitt et al (U.S Patent 5,267,244) and Su et al (U.S Patent 5,212,808) teach similar concepts as primary reference Behtash et al (U.S Patent 5,553,076).**

**B.) Park et al (EP 1,104,974 A2) mention a communication system for handoff of signals from an asynchronous station (3G) to a synchronous (2G) station.**

**C.) Pugh et al (U.S Pub 2005/0273480 A1) mention a gold code generator for UTMS systems that utilizes a second pair of linear feedback shift registers to avoid the necessity to use a wide span of feedback taps to the feedback register to produce output bits.**

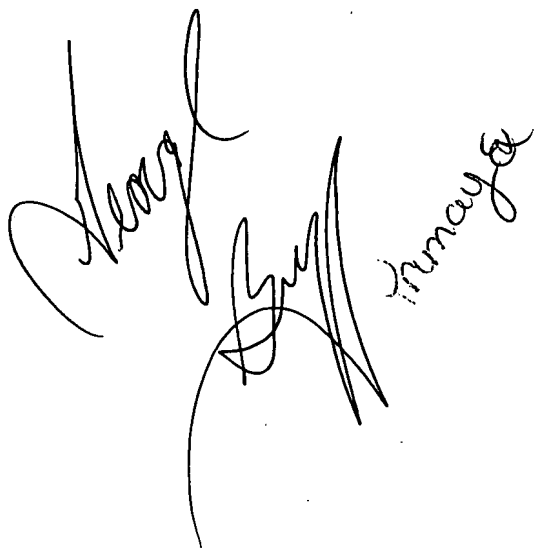
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Xavier Wong whose telephone number is 571-270-1780. The examiner can normally be reached on Monday through Friday 8 am - 5 pm (EST).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Rafael Perez-Gutierrez can be reached on 571-272-7915. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 2609

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

*Xavier Szewai Wong*  
*X.S.W / x.s.w*  
23<sup>rd</sup> April 2007

A handwritten signature in black ink, appearing to read 'Xavier Szewai Wong', with a stylized flourish at the end.